



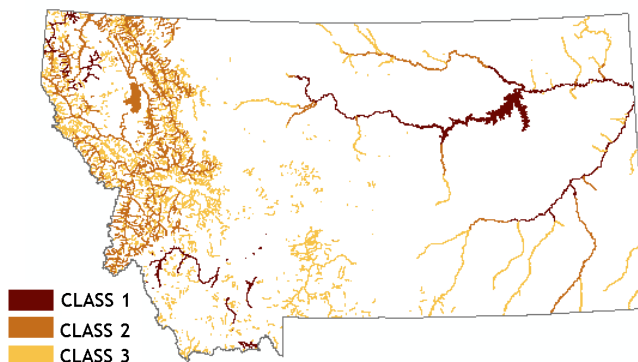
Montana Fish, Wildlife & Parks Crucial Areas Assessment



FISH SPECIES OF CONCERN

SUMMARY: This layer highlights federally listed Threatened or Endangered fish species and species that are considered rare or declining by the joint Fish, Wildlife and Parks and Montana Natural Heritage Program (MTNHP) Species of Concern (SOC) Report

(<http://mtnhp.org/SpeciesOfConcern/>). Species were ranked by their ESA status or SOC status. This assessment only includes 23 fish species and does not include aquatic invertebrates or plant species.



MEASUREMENT UNIT: River segments for flowing water and entire water bodies for lakes/reservoirs. River segments are uniquely identified by river mile and latitude/longitude.

DATA SOURCE(S) / QUALITY: The Montana Fisheries Information System (MFISH)

DATA SOURCES	
<input checked="" type="checkbox"/>	Survey data – counts or estimates
<input checked="" type="checkbox"/>	Survey data – categorical (e.g. presence/absence)
<input checked="" type="checkbox"/>	Expert opinion based on observation
DATA EXTRAPOLATION TECHNIQUE USED	
<input type="checkbox"/>	None
<input type="checkbox"/>	Modeling of habitat-species associations (deductive)
<input type="checkbox"/>	Statistical modeling (inductive)
<input checked="" type="checkbox"/>	Extrapolation to habitat unit (e.g. stream section)
<input checked="" type="checkbox"/>	Extrapolation based on expert opinion

(<http://fwp.mt.gov/fishing/mFish/>) was the source of data utilized in this assessment. Fish distribution data were extrapolated from fisheries surveys conducted by Montana Fish, Wildlife & Parks (FWP) and collector permit holders from state and federal agencies and non-governmental organizations, 1998 – present.

Species state rank information from FWP-MTNHP SOC Report, July 2009. Genetic data from interagency Yellowstone and westslope cutthroat trout assessments, 2009.

METHODS: SOC fish species distributions were reviewed with FWP biologists. Distributions of SOC fish species were delineated to the nearest 0.1 mile. Only populations considered genetically intact or of conservation concern (>90% genetically pure) were considered species of concern for bull trout and both westslope and Yellowstone cutthroat trout.

Distribution of all SOC fish are displayed by their state or federal rank, with higher ranking species shown when species overlap occurs.

Montana Fish, Wildlife & Parks

Crucial Areas Assessment



FINAL CATEGORIZATION: Four categories were used to assess fish Species of Concern, regardless of their abundance (ie. rare, common). Class 1 areas are habitats occupied by SOC 1 species, or those with species that are federally Endangered. SOC 1 species are considered critically imperiled because of extreme rarity or because some factor of its biology makes it especially vulnerable to extinction. Class 2 habitats are areas where multiple SOC 2 species overlap or Threatened fish species are present. SOC 2 species are imperiled because of rarity or some other factors make it very vulnerable to extinction throughout its range. Class 3 habitats are areas occupied by a single SOC 2 or one or more SOC 3 species. SOC 3 species are considered rare throughout their range, or found locally in a restricted range, or are vulnerable to extinction throughout their range. Class 4 habitats do not have Species of Concern present.

CLASS	RANGE OF VALUES	RIVER MILES*	# LAKES*
1	SOC 1 or Endangered species present	1557 (10%)	19 (14%)
2	Multiple SOC 2 or Threatened species present	5285 (32%)	55 (41%)
3	One SOC 2 or ≥ one SOC 3 species present	9441 (58%)	59 (44%)
4	No SOC species present	82,256	4154

*Percentages associated with rated waterbodies only.

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